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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/619,712 | 07/14/2003 | Werner Menk | 03-422 | 7755 |
| 34704 | 7590 | 10/14/2005 | EXAMINER | |
| BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510 | | | YEE, DEBORAH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1742 | |

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,712

Applicant(s)

MENK, WERNER

Examiner

Deborah Yee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 10 to 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10 to 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114; including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 27, 2005 has been entered.

Claim Objections

2. Claim 17 is objected to because of the following informalities: There appears to be a typographical error in sulfur range. Instead of "0.15", perhaps it should be -0.015-- Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 10 to 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK 1,482,724.

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2. UK'724 in claims 1 and 2 on pages 2 and 3 disclose a spheroidal cast iron alloy having a composition with constituents whose wt% ranges overlap those recited by the claims ; such overlap in alloy wt% ranges establishes a prima facie case of obviousness because it would be obvious to one of ordinary skill in the art to select the claimed alloy wt% ranges over the broader disclosure of the prior art since the prior art teaches the same utility (components for an internal combustion engine), see MPEP 2144.05.
3. UK'724 in claims 1 and 2 discloses less than 0.2% S and up to 0.5% Mg which overlap the Mg and S ranges recited by dependent claims 10,16 and 17.
4. UK'724 in lines 16 to 30 of column 1 on page 1 discloses using alloy to make internal combustion components such as piston rings, and hence would meet the recited limitation recited by claims 11 and 12.
5. Even though UK'724 does not teach using Al-Zr as a prealloy immediately added before the alloy melt is cast as recited in claim 13, such would not be a patentable distinction because prior art teaches Al and Zr as alloying constituents added to the melt before casting, and applicant has not demonstrated (e.g. by comparative test data why Al-Zr as a prealloy vs. adding Al and Zr separately would be critical and productive of new and unexpected results. Hence claim would not patentably distinguish over prior art.
6. Even though the process step wherein the temperature of the alloy melt is over 1460C before casting as recited in claim 14 is not taught by prior art, such would not be a patentable distinction. Note that it is conventional practice to make an alloy by melting alloying elements at its melting point temperature or greater to provide a homogeneous

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mixture before casting. Moreover, applicant has not demonstrated why 1460C or greater is somehow critical and productive of new and unexpected results. Hence claim would not patentably distinguish over prior art.

Response to Arguments

7. Applicant's arguments filed July 27, 2005 have been fully considered but they are not persuasive. It was submitted that the present invention cast iron alloy comprises spheroidal graphite in the as-cast condition whereas UK'724 requires heat treatment in order to obtain the nodular graphite. It is the examiner's position that UK'724 according to lines 35-51 on page 2 appears to heat treat to improve wear resistance and increase compatibility with the counter-material. No where is it mentioned that nodular (spheroidal) graphite is produced by the heat treatment. Moreover even if heat treatment is required by UK'724 to produce spheroidal graphite, such would not be a patentable difference. Note that in a product-by-process claim, patentability is determined by the product per se and not its process limitations. The burden falls to the applicant to show that any process steps associated with the claimed product results in a materially different product from those of the prior art, because there is nothing in the record before the examiner to reasonably conclude that applicant's product differs in kind from those obtained by the reference.

8. It was submitted that UK'724 contemplates S contents which are significantly higher than that of the range claimed in dependent claims 16 and 17. It is the examiner's position that UK'724 alloy in claim 1 recites less than 0.2% which overlaps

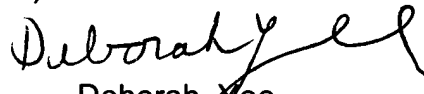
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with claimed S range of less than 0.01%. Moreover, since the S content in UK'724 alloy is considered an inevitable impurity, then it would be desirable to keep it as low as possible; and hence would suggest the claimed S range of less than 0.01%.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah Yee
Primary Examiner
Art Unit 1742

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